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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,564	08/28/2006	Peter Richardson	13425-170US1	4551

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EXAMINER	
CRANE, LAWRENCE E	
ART UNIT	PAPER NUMBER
1623	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/537,564	RICHARDSON, PETER	
	Examiner	Art Unit	
	LAWRENCE E. CRANE	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *August 7, 2008 (RCE & amendment)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-14,16,17,19-31 and 47-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-14, 16, 17, 19-31 and 47-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/07/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claims **1-10** were previously cancelled, claims **15, 18 and 32-46** were cancelled, claims **14, 17, 27 and 28** have been amended, the disclosure has not been amended further, and new claims **47-52** have been added as per the amendment filed August 7, 2008. One additional or supplemental Information Disclosure Statement (1 IDS) filed August 7, 2008 has been received with copies of all cited non-US patent references and made of record.

Claims **11-14, 16, 17, 19-31 and 47-52** remain in the case.

Note to applicant: when a rejection refers to a claim **X** at line y, the line number "y" is determined from the claim as previously submitted by applicant in the most recent response including ~~lines deleted by line through~~.

Second note to applicant: Examiner notes that terminology is present that appears to be different than that familiar to examiner in the adenosine art. As examiner understands the notation for receptors in the art area includes separate notations four adenosine receptors: "A_1," "A_{2A}," "A_{2B} " and "A_3." If applicant has some other notation in mind, examiner respectfully requests a clear definitional statement of the proposed notation as part of any response in order to avoid misunderstanding of the intended meanings of the arguments advanced.

Claims **11-14, 16, 17, 19-31 and 47-52** are rejected under 35 U.S.C. §112, first paragraph, because the specification, while being enabled for the treatment of inflammation, hypertension, and pain by the administration of spongosine, or a combination of spongosine and the amino acid gabapentin, does not reasonably provide enablement for the treatment of any of the noted conditions with any <u>other</u> mixtures of spongosine and another analgesic agent as disclosed in claims **27 and 28**. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The fundamental issue here is whether practicing the full scope of the instant invention is possible without undue experimentation. As provided for in *In re Wands* (858 F.2d 731, 737; 8 USPQ 2d 1400, 1404 (Fed Cir. 1988) the minimum factors to be considered in determination of whether a conclusion of "undue experimentation" is appropriate are as follows:

A. The breadth of the claims: The instant claims are directed to the treatment of pain by administraiton of spongosine or spongosine plus an additional analgesic agent without defining the particular additional analgesic agent in other than generic or subgeneric terms. The claims are therefore deemed to be excessively broad in scope.

B. The nature of the invention: The invention defined by the listed claims is directed to the treatment of pain by the administration of a 2-methoxyadenosine, alone or in combination with a second analgesic compound, to a host in need thereof.

C. The state of the prior art: Instant prior art identifies the claimed active ingredient and also identifies analgesic pharmacological activity in adenosine and numerous other adenosine analogues. It is also argued in another rejection that the instant claimed method is anticipated when inflammation caused by an irritant (carrageenan), and the presumed pain accompanying said inflammation, is effectively treated by the administration of spongosine in light of its antiinflammatory and analgesic properties.

D. The level of one of ordinary skill: One of ordinary skill would be expected to be familiar with the details of the medicinal treatment of pain and also familiar with the possibility of dangerous (and possibly fatal) synergisms sometimes observed when administrating multiple analgesic substances simultaneously.

E. The level of predictability in the art: In view of the absence of teachings herein and in the prior art to provide relevant guidance directed to determining in advance what are safe and what are unsafe combinations of analgesics with spongosine, the safety of the combinations of spongosine with other analgesics is highly unpredictable.

F. The amount of direction provided by the applicant: The instant disclosure, as noted above, only supplies two and one-half pages of guidance and an indication of how to treat pain associated with only a few model test hosts wherein the pain has been induced artificially. And in addition, the examples only include one example wherein a combination of spongosine with the additional analgesic gabapentin are tested, and no guidance concerning how to safely select the "other" possible analgesics as disclosed generically and subgenerically in claims **27 and 28**.

G. The existence of working examples: The existence and the content of examples is described in previous paragraphs.

H. The quantity of experimentation needed to make or use the invention based on the content of the disclosure is deemed to be excessive because the bare minimum of examples in the instant disclosure at pages 7-9 is entirely inadequate to provide the guidance necessary to practice the instant claimed method for the treatment of pain by the administration of spongosine alone, or in combination with another analgesic, without undue experimentation.

Applicant's arguments with respect to claims **11-46** have been considered but are moot in view of the new grounds of rejection. This new ground of rejection was necessitated by applicant's amendments.

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel,* 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornam,* 686 F. 2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi,* 759 F.2d 887, 225 USPQ 645 (Fed. Cir 1985); and *In re Goodman,* 29 USPQ 2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. §1.78(d).

Effective January 1, 1994, a registered attorney or agent or record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 C.F.R. §3.73(b).

Claims **11-14, 16, 17, 19-31 and 47-52** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims ***16-33*** of copending Application No. **10/547,455**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the methods of treatment both appear to include or

imply the treatment of pain and the alleged active ingredients (2-alkoxyadenosines and their 3'-deoxy analogues) are directed to substantially overlapping subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant's arguments filed August 7, 2008 have been fully considered but they are not persuasive.

Applicant has acknowledged the instant rejection but has not yet supplied the requested Terminal Disclaimer. Therefore,. the instant rejection has been maintained.

Claims **11-14, 16, 17, 19-31 and 47-52** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims ***13-24*** of copending Application No. **10/547,454**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the methods of treatment both appear to include or imply the treatment of pain and the alleged active ingredients (2-alkoxyadenosines and their 3'-deoxy analogues) are directed to substantially overlapping subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant's arguments filed August 7, 2008 have been fully considered but they are not persuasive.

Applicant has acknowledged the instant rejection but has not yet supplied the requested Terminal Disclaimer. Therefore,. the instant rejection has been maintained.

Claims **11-14, 16, 17, 19-31 and 47-52** of this application conflict with ***13-24*** of copending Application No. **10/547,454** and ***16-33*** of copending Application No. **10/547,455**. 37 C.F.R. §1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP §822.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

"A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent."

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States."

(e) the invention was described in

(1) an application for patent described under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application filed under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a)."

(f) he did not himself invent the subject matter sought to be patented."

Claims **11-14, 16, 17, 19-31 and 47-52** are rejected under 35 U.S.C. §102(**b**) as being anticipated by **Bartlett et al.** (PTO-1449 ref. **AN**).

Applicant is referred to Table I at page 949 and associated explanation at page 950, column 1, fifth full paragraph, wherein the administration of spongosine, compound numbers "**18**," to treat carrageenan induced inflammation must have inherently included suppression of pain in the hosts so treated, thereby anticipating the instant claimed subject matter. The allegation of inherency is supported by the definition of "inflammation" in Taber's Cyclopedic Medical Dictionary, 19th Ed. (2001) at page 1092, column 1, wherein the occurrence of "inflammation" is defined to include the simultaneous occurrence of" pain" and other symptoms.

Applicant's arguments with respect to claims **11-46** have been considered but are moot in view of the new grounds of rejection.

The following is a quotation of 35 U.S.C. §103(**a**) which forms the basis for all obviousness rejections set forth in this Office action:

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

Claims **11-14, 16, 17, 19-31 and 47-52** are rejected under 35 U.S.C. §103(**a**) as being unpatentable over either of copending Application No. **10/547,454** or copending Application No. **10/547,455** cited has having claims that are obvious variations of the instant claims and therefore rendering the instant claims obvious. See the above obviousness-type double patenting rejections for specific statements defining the bases for the findings of obviousness.

Applicant's arguments with respect to claims **11-46** have been considered but are moot in view of the new grounds of rejection.

Claims **11-14, 16, 17, 19-31 and 47-52** are rejected under 35 U.S.C. §103(**a**) as being unpatentable over **Bartlett et al.** (PTO-1449 ref. **AN**) in view of **Herrick-Davis et al.** (PTO-892 ref. **T**).

The instant claims are directed to methods of treatment wherein 2-methoxyadenosine is administered to treat pain.

Bartlett et al. discloses that spongosine (compound "3a") is an effective agent to treat inflammation caused by contact of a test host with carrageenan. Because inflammation is defined to include "redness," "heat," "swelling," "pain," and "loss of function" (Taber's Cyclopedic Medical Dictionary, 19th Ed., 2001, at page 1092, column 1), and in view of the effectiveness of the administration of spongosine to treat inflammation according to this reference, examiner concludes that it is inherent that spongosine was effective in the treatment of all of the hallmarks of inflammation, including pain.

The **Bartlett et al.** reference did not specifically disclose the testing of spongosine to determine its analgesic activity.

Herrick-Davis et al. discloses that a variety of adenosine analogues that are also known in the art to be adenosine receptor agonists have been found to be analgesic agents with efficacy comparable to morphine. One of the compounds tested, 2-chloroadenosine (CADO), is a close structural relative to spongosine.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to conclude that compounds very closely analogous to CADO disclosed to be a potent analgesic by **Herrick-Davis et al.** to be consistent with an analgesic effect of spongosine as disclosed by **Bartlett et al.** in the treatment of an inflammatory response.

One having ordinary skill in the art would have been motivated to combine these references because both references are directed to disclosures of the analgesic effects observed following the administration of 2-substituted analogues of adenosine, including one compound (spongosine) defined herein as an active ingredient effective in the treatment of pain and/or inflammation inflammation.

Therefore, the instant claimed methods of administration of 2-methoxyadenosine (aka spongosine) to treat pain and/or inflammation would have been obvious to one of ordinary skill in the art having the above cited references before him at the time the invention was made.

Applicant's arguments with respect to claims **11-46** have been considered but are moot in view of the new grounds of rejection.

Papers related to this application may be submitted to Group 1600 via facsimile transmission (FAX). The transmission of such papers must conform with the notice published in the Official Gazette (1096 OG 30, November 15, 1989). The telephone number to FAX (unofficially) directly to Examiner's computer is 571-273-0651. The telephone number for sending an Official FAX to the PTO is 571-273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner L. E. Crane whose telephone number is **571-272-0651**. The examiner can normally be reached between 9:30 AM and 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. S. Anna Jiang, can be reached at **571-272-0627**.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is **571-272-1600**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see < http://pair-direct.uspto.gov >. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

LECrane:lec
08/17/2008

/Lawrence E. Crane/

Examiner, Art Unit 1623

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